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COMMITTEE ON THE PEACEFUL
USES OF OUTER SPACE

INTERNATIONAL TELECOMMUNICATION UNION (ITU)

Note by the Secretariat

The International Telecommunication Union has submitted the attached annual report* for the information of the members of the Committee on the Peaceful Uses of Outer Space.

*In view of the limited number of copies received, the report is being distributed to the members of the Committee only. It is available only in the languages in which it was submitted (English, French and Spanish).

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COMMITTEE ON THE PEACEFUL
USES OF OUTER SPACE

QUESTIONNAIRE ON POSSIBLE LEGAL ISSUES WITH REGARD TO AEROSPACE OBJECTS: REPLIES FROM MEMBER STATES

Note by the Secretariat

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INTRODUCTION

1. At its thirty-eighth session, the Committee on the Peaceful Uses of Outer Space noted that, at the thirty-fourth session of the Legal Subcommittee, the Working Group of the Subcommittee on agenda item 4, on matters relating to the definition and delimitation of outer space and to the character and utilization of the geostationary orbit, had finalized the text of a questionnaire on possible legal issues with regard to aerospace objects. The Committee agreed with the Legal Subcommittee (A/AC.105/607 and Corr.1, para. 38) that the purpose of the questionnaire was to seek the preliminary views of States members of the Committee on various issues relating to aerospace objects. The Committee also agreed that the replies to the questionnaire could provide a basis for the Legal Subcommittee to decide how it might continue its consideration of agenda item 4. The Committee further agreed with the Subcommittee that States members of the Committee should be invited to give their opinions on those matters.[1]

2. The Secretary-General sent a note verbale dated 21 August 1995 to all States members of the Committee on the Peaceful Uses of Outer Space inviting them to communicate to the Secretariat, by 30 November 1995, the above-mentioned information so that the Secretariat could prepare a report containing that information for submission to the Legal Subcommittee at its thirty-fifth session.

3. The present document was prepared by the Secretariat on the basis of information received from Member States by 15 February 1996. Information received to that date will be included in addenda to the present document.

REPLIES RECEIVED FROM MEMBER STATES*

Question 1: Can an aerospace object be defined as an object which is capable both of travelling through outer space and of using its aerodynamic properties to remain in airspace for a certain period of time?

Czech Republic

The suggested definition, according to which an aerospace object could be defined as an object which is capable both of travelling through outer space and of using its aerodynamic properties to remain in airspace for a certain time period, may be admitted only for working purposes; it should be further considered in light of the fact that the term "aerospace object" covers different types of aerospace vehicles, some of which have already been operative, and others which are still in the design and planning stage. Some of these projects, however, have been suspended or even abandoned.

It may be said that all these present and future vehicles have a common denominator in the utilization, to a different extent, of aeronautical and astronautical elements which should enable them to fly in airspace and to move in outer space. At the same time however, they have to serve purposes which are not identical. With the exception of one type of vehicle that seems to be destined mostly for Earth-to-Earth missions, aerospace objects should provide transportation between Earth and outer space. The essential purpose of these vehicles remains in the field of the exploration and use of outer space, not in the field of international transportation of passengers and goods for commercial reasons.

Germany

The term "aerospace object" is unknown in international legal literature and cannot be found in any international legal regulation. As for international space law, the legal terms "space craft" and "space object" are used exclusively. As for international air traffic law, only the term "aircraft" can be found in international regulations. Even in scientific and technical publications with respect to national and international space flight, the term "aerospace object" is completely unknown. These publications use the technical term "space transportation systems". Thereby, they refer to the two existing systems, i.e. the United States Space Shuttle, which has been used for many years already, as well as the Space Shuttle Buran, which was developed by the former Soviet Union and has travelled to outer space only once, i.e. in 1988. Furthermore, reference is made to *future* space transportation systems such as, for example, HERMES (ESA), HOTOL (United Kingdom), HOPE (Japan) or the German SÄNGER as well as the future United States space plane NASP, which are still in the *planning phase* and for some the financing is disputed or has already been cancelled. Therefore, the German delegation prefers to use the technical term "space transportation system" which is an unambiguous and already existing term instead of formulating new definitions in this regard.

Of course, these above-mentioned space transportation systems have a number of common features, which the drafters of the questionnaire wanted to express by using the term "aerospace object". Legally speaking these systems are all space objects, designed for the exploration and use of outer space from launch to landing and are governed by the existing regulations of international space law. Furthermore, they are all designed to land on Earth after their re-entry into Earth's atmosphere like an airplane (specifically speaking, like a glider). Nevertheless, the German delegation is hesitant to elaborate legal definitions with respect to space craft which are in full development and whose properties are not yet fully known by the Legal Subcommittee of COPUOS and sometimes not even to their own designers.

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*The replies are reproduced in the form in which they were received.

Therefore we propose that the Scientific and Technical Subcommittee of COPUOS should study the technical prerequisites of this question, and the Legal Subcommittee should only proceed in its work after the Scientific and Technical Subcommittee has concluded a definitive or at least provisional study in this field.

Iraq

Yes.

Mexico

It is considered that, within the definition of an aerospace object, it would be appropriate to indicate that, apart from their capacity to travel through outer space, in some cases such objects are also able to travel in airspace on a casual or directed basis using their aerodynamic properties or otherwise. In the second case, the term "aerospace object" should be considered.

Pakistan

Yes, this definition could be taken as an appropriate one for the time being.

Philippines

The Philippine Government agrees with the proposed definition. The United States Space Shuttle is an example of an aerospace object capable of travelling through outer space and using its aerodynamic properties to remain in airspace for a certain time.

Question 2: Does the regime applicable to the flight of aerospace objects differ according to whether it is located in airspace or outer space?

Czech Republic

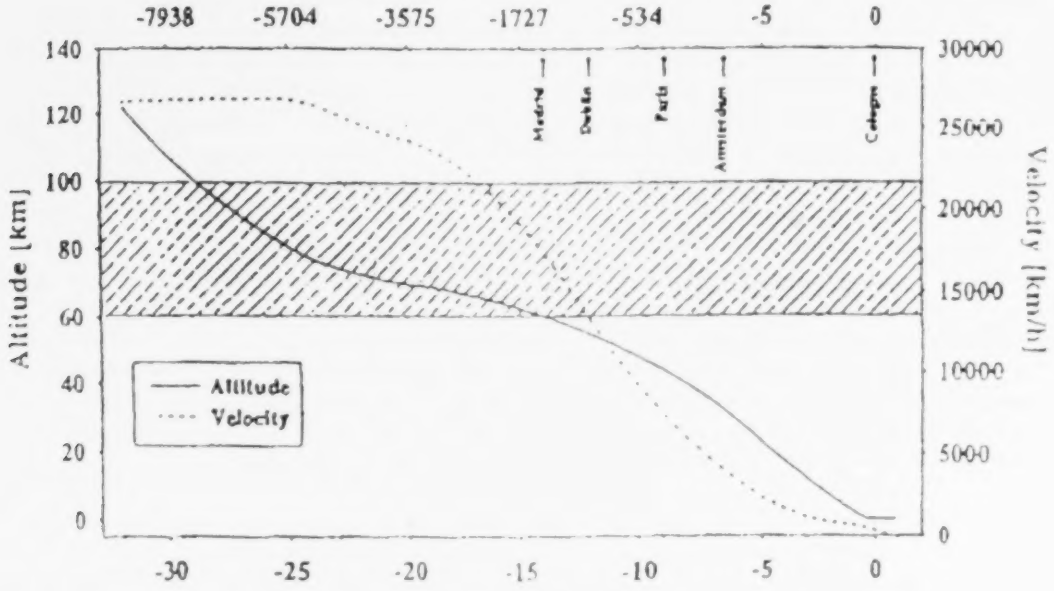
It is not clear what is meant by the phrase "whether it is located in airspace or in outer space". If the verb, "is located", means a real flight of a craft in airspace on the basis of principles and technology of aeronautics on the one hand, and the movement of an object to, in and from orbit on the basis of principles and technology of astronautics on the other hand, the reply to this question would be, in accordance with the present state and air law, positive. This answer however, is subject to further considerations taking into account the purposes served by each airspace object (See below replies to Questions 3 and 4).

Germany

As already pointed out under Question 1 space transportation systems are designed for the exploration and use of outer space according to Articles I - III of the Outer Space Treaty and are one of the most relevant tools in this important field. Therefore, there is no doubt that space transportation systems are space objects according to the entire body of space law especially with regard to its liability regime, and international space law is applicable to their flight whether they are travelling through airspace or outer space. This of course does not exclude that international air traffic law can *also* be applicable after their re-entry into the Earth's atmosphere especially since international air traffic law can possibly interfere with their flight after re-entry into Earth's atmosphere. In order to illustrate this fact it has been pointed out that all existing air transportation systems, i.e. the United States Space Shuttle and the Buran as well as all future systems, need approximately 8,000 km from their re-entry into Earth's atmosphere until their point of landing.

In order to exemplify some of the technical problems in connection with the landing of space transportation systems we have to be aware that approximately 14 to 15 minutes before touchdown their flight altitude is lower than 60 km which means that serious precautions have to be taken to avoid a possible collision with aircraft. For this reason the flight path of a re-entering space object has to be cleared from air traffic altogether, especially as the re-entering space craft does not have the same manoeuvrability as a motor driven aircraft, once it has been brought into its descent and landing trajectory.

Distance to landing strip in km[2]



These data for a typical space shuttle re-entry are gathered from the flight of the United States space shuttle. However they will also apply to all other space transportation systems which are still in the planning phase e.g. HERMES, HOTOL, SÄNGER, HOPE, and HIMES as well as to the United States national aerospace plane NASP.

In this connection it also has to be born in mind that the Space Shuttle, which has a landing mass of 85 - 100 tons re-enters at an enormous speed. As described in Figure 1, it needs just about 30 - 31 minutes from re-entry into the Earth's atmosphere until landing which is a passage of 8,000 km (a regular motor-driven civil aircraft needs approximately 9 hours for such a distance).

This shows that air traffic lawyers and space lawyers have to elaborate a common solution with regard to legal norms applicable to space objects re-entering through the airspace of foreign states, taking into account the particular concerns of those legal regimes.

Iraq

Yes.

Mexico

The differences with regard to the regime applicable under each of the conditions of flight relate both to the delimitation of outer space and to the rights of States over their airspace.

Pakistan

There exists a clear distinction between an aircraft and a spacecraft in that the aircraft derives its motion capability from the properties of the ambient air/atmosphere whereas a spacecraft should be capable of moving in space without any support from the air. Of course these distinctions do not preclude the existence of hybrid vehicles which can move both on land and on water, or both in the air and on land, or both in space and in the air (example: Space Shuttle). A practical consequence of these distinctions between aircraft and spacecraft is that an aircraft possesses a relatively high degree of freedom whereas the movement of a spacecraft is determined by a number of parameters, e.g. the position of the injection point above Earth and the magnitude and direction of the injection velocity due to the rotation of Earth underneath the spacecraft's orbit. Its ground trajectory will, with the passage of time, cross the territory of almost every country between the northern and southern latitudes corresponding to its orbital inclination.

Further, the same atmospheric density which is so essential for the flight of an aircraft becomes rather a disadvantage to the motion of a spacecraft. The air drag, which is proportional to the air density, increases with decreasing altitude resulting in the orbital height decrease until a point is reached where the spacecraft will no longer be able to complete a full orbit around Earth. It will then return to Earth. Despite this fact, only in very exceptional cases, a spacecraft can orbit the Earth at altitudes lower than between 90 and 100 km and therefore, if the altitude of a spacecraft reaches such a value of perigee, it is bound to decay within the next orbit. Technically speaking, the regime applicable to the flight of an aerospace object should therefore differ according to whether it is located in airspace or in outer space.

Philippines

Rules and regulations applying to the flight of aerospace objects should differ according to whether it is located in airspace or outer space.

Question 3: Are there special procedures for aerospace objects, considering the diversity of their functional characteristics, the aerodynamic properties and space technologies used, and their design features, or should a single or unified regime be developed for such objects?

Czech Republic

Unless a single special regulation for airspace objects is developed, such objects, if capable of being used for both purposes, will indeed face two different legal regimes relating to the two categories of activities in the space surrounding our planet. Up to the present time, the law governing aeronautics and the law governing astronautics differ substantially both in their essential principles and in their specific rules. These differences particularly relate to:

- The legality of flight of the vehicle concerned, which in the case of an aircraft is based on the principle of authorization of a foreign state for a flight through its airspace, while the movement of a space object is based on the principle of freedom of activities in outer space and its consequences;

- The registration of aircraft, that has been provided for - as far as civil aircraft are concerned - in the 1944 Chicago Convention, and the registration of space objects that has been provided for in the 1975

Registration Convention which provides for any object launched into outer space; both instruments establish different ways of, and requirements for registration;

- Liability, which in the case of an aircraft is based on international treaties and partly on national law and is attributable to private persons. In the case of a space object, it is based on international law, remains attributable to international persons and should be dealt with among themselves. The solutions to problems relating to the basis and extent of liability, and to problems of jurisdiction in both systems, are also essentially different.

It is possible however, that in practice some types of aerospace objects will be considered as aircraft even if they should perform parts of their flight in outer space and other types of aerospace objects will be considered essentially as space objects because they would use some elements of aerodynamics only for the purpose of their take-off from and return to Earth.

At this stage of development of aerospace objects, the probability of the elaboration and firm establishment of a single legal regime to govern activities of all objects of this kind seems to be rather remote.

Germany

There are no special procedures or international regulations for space transportation systems since until now their elaboration did not seem necessary. The United States Space Shuttle while in outer space did not seem to call for international regulation. As to its re-entry phase, the United States are in the favourable position that their Space Shuttle re-enters the Earth's atmosphere over the High Seas without crossing foreign territory. The United States Space Shuttle is able to land on United States territory so that, according to our knowledge, no problems have arisen so far. As for the Space Shuttle Buran, which was flown once, in 1988, we have very little information. According to the presentation of Mr. Dudar, from NPO Molnia Ballistics and Dynamics of Flight Department, Moscow, Buran de-orbited over the southern part of South America and flew over North Africa and re-entered Baikonur possibly over Turkey.[3] However, since Buran is "grounded" for the time being, no need for regulation seems to exist. As to the question whether a regime should be developed for space transportation systems, the answer to this question has to be postponed until the Scientific and Technical Subcommittee of COPUOS has studied this as well as future developments in this field and submitted its study to the Legal Subcommittee.

Iraq

Single or multiple regimes should be developed to cover all aspects involved.

Mexico

A general regime should be established for these aerospace objects, but the various conditions or cases that may present themselves should be considered within the regime.

For example: "trans-atmospheric" flight, direct re-entry with maintainable body, etc.

Pakistan

To start with, a unified regime should be developed for all types of aerospace objects. The regime may be refined later on in the wake of space-related developments in the international scene.

Philippines

The Philippines is not aware of any special procedures for aerospace objects.

Question 4: Are aerospace objects while in airspace considered as aircraft, and while in outer space as spacecraft, with all the legal consequences that follow therefrom, or does either air law or space law prevail during the flight of an aerospace craft, depending on the destination of such a flight?

Czech Republic

It is possible to give a positive reply to the first part of this question ("are aerospace objects while in airspace considered as aircraft, and while in outer space as spacecraft, with all the legal consequences that follow therefrom?") in relation to those aerospace objects which would be capable of serving, more or less equally, both purposes, i.e. the purposes of aeronautics and astronautics. On the other hand, those aerospace vehicles, which would serve the purposes of air transportation, even it they should fly for a certain period in outer space, might essentially remain aircraft and *vice versa* those aerospace objects which fly through airspace for the purposes of their ascent to or descent from outer space might be considered as spacecraft (as is the case of the present Space Shuttle). Even such objects, however, have to observe some principles and rules of the other legal regime, if they move in another part of space than that of their destination.

Germany

As already indicated in the answers to Question 1 and 3 we are of the opinion that international space law and especially its liability regime is applicable to space transportation systems without regard to whether they are travelling through airspace or outer space. Of course the rules of international and national air law will also already apply for practical reasons pointed out in the answer to Question 3. Since there are no specific international air traffic regulations which were especially tailored to space transportation systems, air traffic lawyers and space lawyers have to eliminate incompatibilities between the two regimes in order to make the re-entry of space transportation systems to Earth possible, taking into account the legitimate rights and interests of States possibly affected by such a passage as well as, in particular, the security interests of international aviation.

Iraq

Aerospace objects should be considered as aircraft, and while in outer space as spacecraft, with all the legal consequences that follow therefrom.

Mexico

The particular aspects involved should be worked out, but the relevant international legal regime should apply in airspace, and the possibility should be considered of establishing a single law for aerospace objects in which the delimitation of airspace is taken into account.

Pakistan

Technologically speaking, aerospace objects, while in airspace should not be considered as aircraft for obvious reasons (special procedures for designing/construction/launching of aerospace objects quite different from those of an aircraft). Therefore, a suitable regime should be developed for such objects while in airspace and outer space, depending on their destination.

Philippines

Aerospace objects, like the United States Space Shuttle, are designed as spacecraft and should remain as such. Their flexibility/capability to manoeuvre as aircraft is only incidental to their intended use.

Question 5: Are the take-off and landing phases specially distinguished in the regime for an aerospace object as involving a different degree of regulation from entry into airspace from outer space orbit and subsequent return to that orbit?

Czech Republic

If we understand this question correctly, an airspace vehicle which serves the purposes of astronautics (such as the present Space Shuttle) does not require a different degree of regulation for its take-off and landing phases provided that it observes, as necessary, the principles and rules of air law in order to avoid infractions of safety of the air. However, an aerospace object that would be capable of serving both purposes, i.e. to fly as an aircraft in airspace and to move as a spacecraft in outer space, should operate in conformity with air law or space law in the respective parts of space.

Germany

In the case where a special regime for space transportation systems is elaborated, of course it has to distinguish between take-off and landing phases since these phases are very different. As to the landing phase we refer to our answer given to Question 2. Whereas the landing phase of a space object between its re-entry into Earth's atmosphere and touchdown is effected approximately over 8,000 km, the trajectory chosen for take-off is very steep. It has an elevation of some 70 degrees above the horizon or more up to an altitude between 10 and 20 km. Afterwards, at altitudes where the air density has become sufficiently low, the flight direction is gradually changed to lower elevations in order to proceed to the ultimate, nearly horizontal orbital trajectory. Since launchings are usually effected on the territory of the "home" State or in cooperation with a foreign State, problems in this respect have not yet arisen or could be solved sufficiently.

Iraq

This question is not clear enough and should be clarified.

Mexico

There should be no difference in regulation; only the operating procedures should be considered.

Pakistan

The answer to this question should be in the affirmative. Whenever such a regime is developed, the typical aspects mentioned in the question for an aerospace object should be kept in mind.

Philippines

Distinction should be made in the region for an aerospace object involving a different degree of regulation for entry into airspace, from outer space orbit and subsequent return to that orbit.

Question 6: Are the norms of national and international air law applicable to an aerospace object of one State while it is in the airspace of another State?

Czech Republic

The norms of national law and international air law would be applicable only to those aerospace objects which would be capable of serving the purposes of aeronautics, not to those aerospace vehicles which would be essentially considered as space objects.

Germany

See the answers to Questions 2 and 4 above.

Iraq

Yes.

Mexico

As mentioned earlier under question 4, international and national air law should apply to these objects, and the particular considerations relevant to each case should be worked out.

Pakistan

A distinction has to be made between airspace and outer space. This aspect largely depends upon the positive outcome of the long drawn out debate in COPUOS for many years on the subject of the definition and delimitation of outer space. The applicability of the present day national or international air law cannot obviously be made in totality in the case of an aerospace object and some clear-cut norms need to be devised for that purpose.

Philippines

The Philippines tends to believe that the International Civil Aviation Organisation (ICAO) Convention should be made to govern.

Question 7: Are there precedents with respect to the passage of aerospace objects after re-entry into the Earth's atmosphere and does international customary law exist with respect to such passage?

Czech Republic

In the doctrine of space law there has not yet been sufficient support for the conclusion that the right of passage for an ascending or descending space object has been generally recognized as a customary rule of international law. In practice, however, such passage occurs and no protests against it have been raised so far. An explicit admission of the right of passage for space objects, as long as the passage is innocent, i.e. not prejudicial to the peace, good order or security of the subjacent States, and a more detailed regulation of the exercise of this right should be considered as a way for legalization of the actual practice.

Germany

According to our knowledge, space transportation systems are regularly used only by the United States and have only been used once by the former Soviet Union namely on 15 November 1988 (see the answer

to Question 3 above). As for the United States Space Shuttle, we have already pointed out that this space transportation system takes off from United States territory. Its re-entry into Earth's atmosphere is also effected over the High Seas and United States territory, so that it lands in the United States and does not have to overfly foreign countries for this purpose. As for the one and only flight of Buran, there is just one precedent where foreign countries were overflown after re-entry into Earth's atmosphere for the purpose of touchdown in Baikonur. However, we do not have any knowledge about consultations with, or information furnished to the governments of States which were overflown during this mission. Therefore, the only useful precedent with respect to the passage of space transportation systems through airspace after their re-entry into Earth's atmosphere are United States precedents which have not caused any problems up to now, especially since no foreign State was affected. Therefore, no international customary law exists with respect to the passage of space transportation systems *over foreign territory*, since no international practice in this respect exists. As for the one and only precedent, i.e. the flight of Buran where foreign territory was overflown, this case is not relevant for the formation of international customary law, especially since the former Soviet Union, which was the launching State, does not exist any more.

Iraq

No such precedents are traced with respect to Iraq.

Mexico

Yes, precedents exist and examples include the falling of space objects to Earth in Canada and Australia, among others.

Pakistan

There are several examples of such incidents, some of which are given below:

- Re-entry of Apollo 13/SNAP 27 in the atmosphere over the South Pacific in 1970, which was lost on the bottom of the Tonga Trench.

- The falling down of the Soviet NPS-carrying satellite COSMOS-954 on 24 January 1978 over Canadian territory.

- Re-entry of Skylab into the lower atmosphere and its eventual fall on Australian territory on 11 July 1979.

- Accident of COSMOS-1402 in 1982 - 83, which re-entered Earth's atmosphere over the High Seas and disintegrated during the process causing no damage to foreign territory (which was merely a coincidence).

No specific international customary law exists, to our knowledge, with respect to such passage of aerospace objects over foreign territories.

Philippines

Insofar as the Philippine experience is concerned, it is not aware of any precedent with respect to the passage of aerospace objects after re-entry into Earth's atmosphere.

Question 8: Are there any national and/or international legal norms with respect to the passage of space objects after re-entry into the Earth's atmosphere?

Czech Republic

While there are no specific rules which should govern the passage of space objects after re-entry into Earth's atmosphere, it is to be recalled that some general provisions of international space law, particularly those included in the 1967 Outer Space Treaty, govern all stages of space flight including the passage of space objects through the atmosphere of Earth.

Germany

See the answers to Questions 1, 2 and 4.

According to German Law, the Federal German Aviation Code (Luftverkehrsgesetz) is not only applicable to aircraft but also for other objects such as, for example, space craft and rockets. §1 of the Federal Aviation Code* reads as follows:

§1	(Freiheit des Luftraums; Begriff des Luftfahrzeugs)	[§1 (Freedom of Airspace; Definition of Aircraft)
	(1) Die Benutzung des Luftraums durch Luftfahrzeuge ist frei, soweit sie nicht durch dieses Gesetz und durch die zu seiner Durchführung erlassenen Rechtsvorschriften beschränkt wird.	(1) The use of airspace by aircraft is free, insofar as it is not restricted by this law and by statutory order to implement this law.
	(2) Luftfahrzeuge sind	(2) Aircraft are:
	1. Flugzeuge 2. Drehflügler 3. Luftschiffe 4. Segelflugzeuge 5. Motorsegler 6. Frei- und Fesselballone 7. Drachen 8. Rettungsfallschirme 9. Flugmodelle 10. Luftsportgeräte 11. sonstige für die Benutzung des Luftraums bestimmte Geräte.	1. Airplanes 2. Rotary craft 3. Airships 4. Gliders 5. Engine-propelled gliders 6. Free and captive balloons 7. Kites 8. Rescue parachutes 9. Model aircraft 10. Air sport equipment 11. Other objects designed for use in airspace.
	Raumfahrzeuge, Raketen und ähnliche Flugkörper gelten als Luftfahrzeuge, solange sie sich im Luftraum befinden.	Spacecraft, rockets and similar flying objects are regarded as aircraft as long as they are in airspace.]

Iraq

Present national and/or international legal norms should apply with respect to space and aerospace objects after re-entry into Earth's atmosphere.

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*The translation of the German text is not official.

Mexico

- Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies;
- Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space;
- Convention on International Liability for Damage Caused by Space Objects;
- Convention on Registration of Objects Launched into Outer Space;
- Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space;
- Principles Relevant to the Use of Nuclear Power Sources in Outer Space.

Pakistan

There probably exist no specific national or international legal norms with respect to the passage of space objects after re-entry into Earth's atmosphere. However some relevant Clauses/Articles in the following space-related Treaties could be found useful in formulating appropriate legal norms in this respect:

Treaty/Convention/Agreement Concerning Outer Space	Relevant Principles/Articles
1. Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space [General Assembly Resolution 1962 (XVIII) of 13 December 1963]	Paragraphs 7 and 8
2. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies [Outer Space Treaty; General Assembly Resolution 2222 (XXI) of 19 December 1966]	Articles VII and VIII (corresponding to paragraphs 8 and 7, respectively, of the 1963 Declaration mentioned in No. 1 above)
3. Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space [General Assembly Resolution 2345 (XXII) of 19 December 1971]	Article 5
4. Principles Relevant to the Use of Nuclear Power Sources in Outer Space [General Assembly Resolution 47/68 of 14 December 1992]	Principles 5 and 7

Philippines

The Philippines is not aware of any legal norm under Philippines jurisdiction with respect to the passage of space objects after re-entry into Earth's atmosphere.

Question 9: Are the rules concerning the registration of objects launched into outer space applicable to aerospace objects ?

Czech Republic

The rules concerning the registration of objects launched into outer space are fully applicable to those aerospace objects which are essentially considered as space objects. These rules should also be applicable to future aerospace vehicles which would be capable of serving the purposes of astronautics. An aerospace vehicle capable of serving both purposes - those of aeronautics and astronautics - should be subject to a double registration, as an aircraft and a spacecraft, unless a single regime as mentioned under Question 3 is elaborated. Such a regime should also include appropriate provisions on the establishment of special national registers (and perhaps also of an international register) for aerospace objects.

Germany

According to the precise wording of the Registration Convention, we do not have any doubts about the applicability of this Convention.

Iraq

Yes, provided that the object is launched into outer space.

Mexico

Yes, this is possible and necessary, since some such objects will, in future, operate regularly as space and air objects.

Pakistan

An aerospace object is to be distinguished from an aircraft as elaborated in the reply to Question No. 2. Article I of the Convention on Registration of Objects Launched into Outer Space [General Assembly Resolution 3235 (XXIX) of 12 November 1974] defines the term "space object" to include component parts of a space object as well as its launch vehicle and parts thereof. The Articles in that Convention should therefore be applicable to all the aerospace objects launched into outer space.

Philippines

Aerospace objects should be treated as a different species and hence, registration should be lodged in a different body.

General responses

Italy

The Italian Government has carefully examined the questionnaire, which raises legal issues not easy to solve, due to the complex implications deriving out of the same; it needs therefore to be thoroughly examined in its various aspects.

The Italian Government acknowledges and shares the opportunity to examine the matter in an appropriate "forum" in order to integrate the existing international laws. In its opinion, nevertheless, the problem which is being raised must not re-introduce the controverted matter of the delimitation of airspace and outer space, and is not to be conditioned by the same.

United Kingdom of Great Britain and Northern Ireland

The Government of the United Kingdom acknowledges the importance of the subject and the possible future implications of considering legal issues in this area of Aerospace Objects, but regrets that it is unable to provide an agreed response to the questionnaire at present. The matter will be kept under review and a response will be forwarded to the Committee on the Peaceful Uses of Outer Space in due course.

Notes

[1]See *Official Records of the General Assembly, Fiftieth Session, Supplement No. 20* (A/50/20), para. 117.

[2]Benkö, Marletta/Gebhard, Jürgen, *Delimitation of Outer Space and Outer Space Activities Including Problems to the Free ("Innocent") Passage of Space Craft Through Foreign Air Space for the Purpose of Reaching Orbit and Returning to Earth*, in Benkö/Schrogl (editors), International Space Law in the Making: Current Issues in the United Nations Committee for the Peaceful Uses of Outer Space, p. 123. Forum for Air and Space Law, Editions Frontières, Gif Sur Yvette.

[3]Dudar, E. N. *Flight Dynamics Analysis of Aerospace System with Subsonic Carrier Plane.* Russian/Ukrainian/German Symposium on Space Transportation and Propulsion. DGLR Bericht, 26 - 28 May 1993.